



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,949	07/07/2003	Hidenori Kato	053969-0156	6613
22428	7590	12/28/2005	EXAMINER	
FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			PHUONG, DAI	
			ART UNIT	PAPER NUMBER
			2688	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/612,949	Applicant(s) KATO, HIDENORI	
	Examiner Dai A. Phuong	Art Unit 2688	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant has submitted a response, filed 11/22/2005, arguing that Ton et al. does not disclose a condition when, when detecting a congestion state of processing, the first user plane processing means transfers a first part of the processing to the second user plane processing means while maintaining a part of the processing at the first user plane processing means. Applicant's arguments have been fully considered and are persuasive.

Applicant is advised to clearly define the term "first user plane" and "second user plane" and specifically point out "being provided in an *upper position* of the *first and second user plane* processing means".

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ton et al. (Pub. No: 2003/0117983) in view of Lindblom et al. (U.S. 6914878).

Regarding claim 1, Ton et al. disclose a mobile communication system which includes a mobile unit, a radio base station, and a radio controller (fig. 1, [0006]), wherein the radio controller comprises: first 204-210 and second user plane 212-217 processing means for performing processing to control transfer of user data in relation to the mobile unit (fig. 2,

[0033]); and control plane processing means for processing to control transfer of signaling having a control signal, the control plane processing means being physically separated from the first and second user plane processing means and being provided in an upper position of the first and second user plane processing means ([0033] and [0043]).

However, Ton et al. do not disclose a mobile communication system which includes a mobile unit, a radio base station, and a radio controller wherein the radio controller comprises: when detecting a congestion state of processing, the first user plane processing means transfers a first part of the processing to the second user plane processing means while maintaining a second part of the processing at the first user plane processing mean.

In the same field of endeavor, Lindblom et al. disclose a mobile communication system which includes a mobile unit, a radio base station, and a radio controller wherein the radio controller comprises: when detecting a congestion state of processing, the first user plane 22 processing means transfers a first part of the processing to the second user plane 24 processing means while maintaining a second part of the processing at the first user plane processing mean (fig. 1, col. 4, line 59 to col. 5, line 20 and fig. 7, col. 11, 13 to 32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the GGSN of Ton et al. by specifically including detecting a congestion state of processing, the first user plane processing means transfers a first part of the processing to the second user plane processing means while maintaining a second part of the processing at the first user plane processing mean, as taught by Lindblom et al., the motivation

being in order to transfer all traffic cells to a redundant plane without losing, corrupting, or confusing the order of the traffic cells.

Regarding claim 2, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 1. Further, Ton et al. disclose the mobile communication system wherein the first user plane processing means is an active system connected to the radio base station, and the second user plane 217 processing means is a backup system for the first user plane processing means ([0043]).

Regarding claim 3, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 1. Further, Ton et al. disclose the mobile communication, wherein the first user plane processing means comprises means for, in response to the detection of the congestion state ([0041]), controlling so as to switch a transmission/reception destination of the control signal and the user data to the second user plane processing means as well as transmitting a switching direction to the second user plane processing means ([0043]), and means for notifying the second user plane processing means of information necessary for processing transferred to the second user plane processing means ([0043]).

Regarding claim 4, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 3. Further, Ton et al. disclose the mobile communication system wherein the second user plane processing means comprises means for inheriting the information in response to the notice of the information as well as processing the control signal and the user data in response to reception of the switching direction ([0043]).

Regarding claim 5, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 1. Further, Ton et al. disclose the mobile communication system wherein the radio base station BSS is present in a first communication network (fig. 1, [0006]), and the first and second user plane processing means and the control plane processing means GGSN are connected to a second communication network MSC/HLR different from the first communication network (fig. 1, [0006]), and the first user plane processing means further comprises conversion interface means between the first and second communication networks (fig. 2, [0033]).

Regarding claim 6, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 5. Further, Ton et al. disclose the mobile communication system wherein the second user plane processing means transmits and receives the control signal and the user data via the conversion interface means in the first user plane processing means ([0033] and [0043]).

Regarding claim 7, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 5. Further, Ton et al. disclose the mobile communication system wherein the first communication network includes an ATM communication network, and the second communication network includes an IP communication network (fig. 2, [0033]). Furthermore, Lindblom et al. disclose the mobile communication system wherein the first communication network includes an ATM communication network, and the second communication network includes an IP communication network (col. 4, lines 9-26)

Regarding claim 8, Ton et al. disclose an operation control method in a mobile communication system which includes first 204-210 and second user plane 212-216 processing

means for performing processing to control transfer of user data in relation to a mobile unit and control plane processing means for performing processing to control transfer of signaling having a control signal, the control plane processing means being physically separated from the first and second user plane processing means and being provided in an upper position of the first and second user plane processing means (fig. 2, [0033] and [0043]).

However, Ton et al. do not disclose wherein the first user plane processing means executes a step of, when a congestion state of processing is detected, transferring a first part of the processing to the second user plane processing means while maintaining a second part of the processing at the first user plane processing mean.

In the same field of endeavor, Lindblom et al. disclose wherein the first user plane 22 processing means executes a step of, when a congestion state of processing is detected, transferring a first part of the processing to the second user plane 24 processing means while maintaining a second part of the processing at the first user plane processing mean (fig. 1, col. 4, line 59 to col. 5, line 20 and fig. 7, col. 11, 13 to 32)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the GGSN of Ton et al. by specifically including the first user plane processing means executes a step of, when a congestion state of processing is detected, transferring a first part of the processing to the second user plane processing means while maintaining a second part of the processing at the first user plane processing mean, as taught by Lindblom et al., the motivation being in order to transfer all traffic cells to a redundant plane without losing, corrupting, or confusing the order of the traffic cells.

Regarding claim 9, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 8. Further, Ton et al. disclose the operation control method wherein the first user plane processing means is an active system connected to a radio base station for providing a radio bearer to the mobile unit, and the second user plane processing means is a backup system for the first user plane processing means ([0033] and [0043]).

Regarding claim 10, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 8. Further, Ton et al. disclose the operation control method wherein the first user plane processing means further executes ([0041]): a step of, in response to the detection of the congestion state, controlling so as to switch a transmission/reception destination of the control signal and the user data to the second user plane processing means ([0043]); a step of transmitting a switching direction to the second user plane processing means; and a step of notifying the second user plane processing means of information necessary for processing transferred to the second user plane processing means ([0043]).

Regarding claim 11, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 10. Further, Ton et al. disclose the operation control method wherein the second user plane controlling means executes: a step of inheriting the information in response to the notice of the information ([0043]); and a step of processing the control signal and the user data in response to reception of the switching direction ([0043]).

Regarding claim 12, this claim is rejected for the same reason as set forth in claim 5.

Regarding claim 13, this claim is rejected for the same reason as set forth in claim 6.

Regarding claim 14, this claim is rejected for the same reason as set forth in claim 7.

Regarding claim 15, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 1. Further, Lindblom et al. discloses the mobile communication system wherein the congestion state of processing corresponds to the first user plane processing means operating in a normal state of operation, but with an input amount of data to be processed by the first user plane processing means being greater than a predetermined amount (fig. 1, col. 4, line 59 to col. 5, line 20 and fig. 7, col. 11, 13 to 32).

Regarding claim 16, this claim is rejected for the same reason as set forth in claim 15.

Regarding claim 17, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 1. Further, Ton et al. disclose the mobile communication wherein the first user plane processing means controls the transfer of the second part of the processing to the second user plane processing means ([0043]). Furthermore, Lindblom et al. discloses the mobile communication wherein the first user plane processing means controls the transfer of the second part of the processing to the second user plane processing means (fig. 1, col. 4, line 59 to col. 5, line 20 and fig. 7, col. 11, 13 to 32).

Regarding claim 18, this claim is rejected for the same reason as set forth in claim 17.

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ton et al. (Pub. No: 2003/0117983) in view of Lindblom et al. (U.S. 6914878) in view of Johansson et al. (Pub. No: 20040062251).

Regarding claim 19, the combination of Ton et al. and Lindblom et al. disclose all the limitation in claim 1. However, the combination of Ton et al. and Lindblom et al. do not disclose the mobile communication system wherein said first user plane processing means comprises: a

Layer 2 processing unit; an ATM/V interface unit that is configured to convert ATM packets input thereto from an external node to P packets and to transfer the P packets to either said Layer 2 processing unit or to a router, said ATM/V interface unit also configured to convert IP packets input thereto from said Layer 2 processing unit or from said router into ATM packets and to transfer said ATM packets to said external node; and an APL unit that is configured to provide control information to said ATM/.P interface unit to direct transfer of said ATM packets and said IP packets to either said Layer 2 processing unit or said router.

In the same field of endeavor, Johansson et al. disclose the mobile communication system wherein said first user plane processing means comprises: a Layer 2 processing unit; an ATM/V interface unit that is configured to convert ATM packets input thereto from an external node to P packets and to transfer the P packets to either said Layer 2 processing unit or to a router, said ATM/V interface unit also configured to convert IP packets input thereto from said Layer 2 processing unit or from said router into ATM packets and to transfer said ATM packets to said external node; and an APL unit that is configured to provide control information to said ATM/.P interface unit to direct transfer of said ATM packets and said IP packets to either said Layer 2 processing unit or said router ([0034] to [0035] and [0043] to [0045]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the GGSN of Ton et al. by specifically including a Layer 2 processing unit; an ATM/V interface unit that is configured to convert ATM packets input thereto from an external node to P packets and to transfer the P packets to either said Layer 2 processing unit or to a router, said ATM/V interface unit also configured to convert IP packets input thereto from said Layer 2 processing unit or from said router into ATM packets and to

transfer said ATM packets to said external node; and an APL unit that is configured to provide control information to said ATM/.P interface unit to direct transfer of said ATM packets and said IP packets to either said Layer 2 processing unit or said router, as taught by Lindblom et al., the motivation being in order to provide a telecommunications node that is able to handle IP-traffic and to terminate telecommunications traffic.

Reasons Subject Matter

5. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 20, the prior art record does not disclose nor fairly suggest the mobile communication system wherein said a lower protocol management part; APL unit comprises: a congestion detection part that detects a state of congestion; a congestion state control part that performs control during the state of congestion as detected by said congestion detection part; a **control unit for controlling said lower protocol management part, said congestion detection part, and said congestion state control part; and a bus that communicatively connects said lower protocol management part, said congestion detection part, and said congestion state control part.**

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eng George can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2688

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dai Phuong

AU: 2688

Date: 12-22-2005

A handwritten signature in black ink, appearing to read "George Eng".

GEORGE ENG
SUPERVISORY PATENT EXAMINER